

(d) REMARKS

The claims are 2-8 with claim 2 being independent. Claim 2 has been provided to better define the intended invention and consideration of the claims is respectfully requested.

The Examiner had required a more descriptive title. Accordingly, a new title more clearly indicative of the invention to which the claims are directed, has been provided. The Abstract of the Disclosure was deemed objectionable, since it exceeded 150 words. A new, more concise Abstract has been provided , as required.

New claim 2 provides the light-emitting molecules are monomeric organic compounds. Support for this feature is found on page 39, line 24 to page 40, line 3 and page 54, line 20 to page 55, line 2. On page 39, it is noted that the structure has an essential backbone. This structure is distinguished from an oligomer or polymer containing such a unit structure. On page 54, line 20 to page 55, line 2, it is noted that dimers or oligomers of the molecule are existent. Accordingly, Applicants have distinguished on the record between monomeric molecules and dimers, oligomers and polymers of such monomeric molecules. The present invention is directed to the monomeric forms of the compounds and not the dimers, oligomers or polymers thereof.

Support for claim 3 is found, inter alia, on page 44, lines 8-10 and page 45, line 5. Support for new claim 4 is found, inter alia, on page 44, lines 14-18 and page 46, line 10. Support for new claim 5 is found on page 54, line 28. Support for new claim 6 is found on page 39, lines 24-27; page 40, line 26 and page 44, line 6. Support for new claim 7 is found on page 42, lines 10, 11 and 16. Support for new claim 8 is found on page 41.

The Examiner had rejected former claim 1 as anticipated by Bellmann '597.

Prior to addressing the Examiner's position , Applicants wish to briefly review certain key features and advantages of the present claimed invention.

The present invention directed to organic light-emitting device comprising an anode, an organic layer and a cathode, wherein light-emitting molecules existing in an emissive layer, which constitutes at least a part of the organic layer and provides luminescence by charge injection, effect transition from a triplet excited state having an energy level higher than a lowest excited singlet state to the lowest singlet excited state same as existing in the emissive layer, and wherein the light- emitting molecules are a monomeric organic compound.

That is; in the organic light-emitting device of the present invention, light-emitting molecules existing in a light-emitting layer effect so-called reverse intersystem crossing, effect light emission in a fluorescence quantum yield of 60% or more, and are a monomeric organic compound. Herein, the term "reverse intersystem crossing" refers to a transition from a triplet excited state of an energy level higher than a lowest excited singlet state to the lowest singlet excited state, and the term "monomeric organic compound" refers to an organic compound having no repeating unit.

Bellmann '597 is directed to an electroluminescent device with a light-emitting layer (i.e., transfer layer) constituted of an amorphous, non-polymeric organic matrix and light-emitting molecules disposed therein. However, the light-emitting molecules in Bellmann are polymeric compounds. In particular, Bellmann discloses light-emitting polymers (LEP) which are said to be conjugated polymeric or oligomeric

molecules with film-forming properties. These are typically disposed in a non-polymeric matrix material. LEP's are distinguished from small molecules(SM) amorphous materials as light emitters, since cast SM materials are said to tend to form crystallites upon solvent drying or later during use.

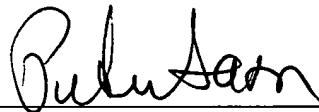
In all the working Examples of Bellmann having light-emitting layers, the light-emitting material is identified as either Covion Green or Covion Super Yellow, all of which compounds are polymers. In each Example, thin films were cast from solutions to take advantage of light-emitting polymers's thin- film- forming properties (which provide good transfer properties). In contrast, in the present specification in Examples 1 and 2 on pages 64 and 69, the instant non-polymeric (monomeric) organic compounds provided thin films without crystallization. The result is unexpected based on Bellmann who teaches that small molecules tend to form crystallites.

The description "Covion Green PPV Polymer HB 1270" in column 37, line 23 of Bellman and the disclosure of a transfer layer made of Covion Green and t-butyl PBD (as a non-polymeric matrix compound) in Table 3 thereof, mean that t-butyl PBD is the principal matrix constituent. The description "Covion Super Yellow, Covion PDY 132" in column 37, line 32 and the disclosure of a transfer layer made of Covion Super Yellow and mTDATA as a non-polymeric matrix compound in Table 3 thereof, mean that mTDATA is the principal matrix constituent. Therefore, Covion Green and Covion Super Yellow used therein are the light emitting molecules, which are clearly disclosed to be polymer compounds.

Accordingly, it is submitted that none of the references discloses or suggests the present claimed invention nor renders it unpatentable. Accordingly, it is respectfully requested that the claims be allowed and that the case be passed to issue.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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